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ABSTRACT

This paper develops a comprehensive and coordinated strategy for teaching critical reading and rational decision-making skills to college students. Five skills are identified as essential for developing sound reasoning processes: (1) developing an objective viewpoint, (2) identifying and clarifying an evaluative statement--the difference between fact and opinion, (3) judging factual statements against available data, (4) determining the validity of an argument, and (5) testing an evaluative statement. Sample exercises illustrate the subskills necessary for distinguishing between factual and evaltative statements and for clarifying the major judgments and related facts of the issue. (MAI)

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"Techniques and Activities for Developing Critical Reading Skills with Mature Students"

DEVELOPING CRITICAL READING SKILLS
IN TWO-YEAR COLLEGE PROGRAMS
Session /2 Speakers
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Techniques and Activities for Developing Critical Reading Skills with Mature Students

Purpose

One conclusion suggested from research by Glaser (1941), Kemp (1963), and O'Brien (1973), is that instruction at the college level is effective in improving critical reading skills on a wide variety of criterion measures. Instruction varies from exercises in semantics, distinguishing fact and opinion, detecting the author's purpose, locating propaganda, drawing logical inferences, interpreting literary devices and using formal logic. What is missing in the instruction carried out by researchers and in the present books on the market is a comprehensive and coordinated approach toward rational decision making. The fragmentation of critical reading or thinking skills into isolated exercises can make the teacher and the student over-emphasize the means and forget the ends. It is the purpose of this paper to present a comprehensive strategy which teachers can use in accomplishing the following goal: rational evaluation of written discourse which may in turn lead to rational decision making. Example exercises will be used to explain the subskills of the overall strategy and an attempt will be made to apply each subcomponent to a continuous topic in order to explain the meaningfulness of a coordinated approach.

Definition of Terms

Several terms need to be clarified before continuing. "Critical reading" is judging the reasonableness of written language. More specifically it is

judging the worth, truth, morality, excellence, or efficiency of some person, object or idea based on a specific standard. It requires a literal level understanding of the information presented and an interaction of prior knowledge and experiences with the new information. The key term in critical reading is the word "judging." Critical reading is rational evaluation applied to written material. A rational judgment is a "sound judgment." The two requirements for a sound judgment are "reliability" and "validity," as suggested by Munson (1976). "Reliability" is judging the accuracy of the information given in the statements of an argument. "Validity" is judging whether or not the conclusion or final inference follows logically from the information provided. If either validity or reliability or both is missing from an argument, the reader should not accept the conclusion as sound.

The strategy proposed here is based more on "informal logic" than formal logic since Munson says that most ordinary arguments aren't deductive or formal and so it doesn't seem worthwhile to teach all of the classic rules offered by formal deductive logic. According to Munson (1976) "informal logic" is making clear the standards that are involved in the ordinary everyday activities of establishing and evaluating claims and of using language effectively in the process of communication and rational persuasion.

Overview of Strategy

The overall approach presented in the next few pages includes the following stages of critical reading:

1) Determine Background Information, Experiences, and Attitudes

2) Identify Evaluative Statement

3) Judge Reliability

4) Judge Validity

5) Test General Application of Evaluation

Below is a specific outline of the strategies to be mentioned as they relate to the stages above. These standards for rational decision making are adapted in part from Coombs and Meux (1971).

1) Provide necessary information, concepts, experiences and vocabulary
   a) attitude scale
   b) film
   c) organizer

2) Identify and clarify major evaluative statements
   a) definition of terms
   b) distinguish evaluation, attitude, feelings
   c) distinguish factual and evaluative statements

3) Assemble and verify facts
   a) check the source - (misuse of authority)
   b) compare factual accounts of experts

4) Include wide range of facts
   a) information from several points of view (e.g. misuse of statistics)
   b) positive and negative facts

5) Determine relevancy of facts to the evaluation

6) Determine if evaluation follows facts logically
   a) false cause fallacy
   b) circular reasoning

7) Test general application of the evaluation
   a) role-exchange test
   b) universal consequence test

FIRST STAGE

Since research suggests prior experience and attitudes are factors that affect a student's ability to improve in critical reading, several techniques are presented to deal with these factors.

1) As in teaching any reading selection, the Directed Reading Activity (DRA) is suggested. The first step of this approach could include background information, concepts, vocabulary, and role-playing to prepare the reader to meet the reading selection from an objective standpoint.
2) In order to further research in this area and determine an instructor's ability to teach critical reading, a survey of attitudes toward the topic of the selection is suggested.

SECOND STAGE

The next phase of the overall strategy is identifying and clarifying the basic evaluation statement made in the reading. The teacher must teach the distinction between evaluative statements and group or personal attitude statements, as suggested by Coombs (1971). Consider the example:

Evaluative Statement: 1) Nine year olds are better now than they were in 1970-71.

Attitude Statement: 2) Reading experts approve of the results of the scores on the NAEP.

The judgmental term in statement one is "better" and to determine the acceptability of this statement one would gather information about reading scores and see if they were better according to some criterion for improvement. But statement two is not an evaluation and in order to determine its acceptability one would have to find out if the experts really held this feeling or attitude. Attitude statements may follow from evaluation since reading experts may want others to agree with these results. But the distinction is necessary in order that teachers avoid trying to prove attitudes (e.g. I like blondes) when one is really searching for the evaluative statement that precedes the feeling or attitude.

The next step in identifying the major evaluative statements is to teach the difference between statements of fact and evaluation, often referred to as fact and opinion. This distinction is important also so that students use factual statements and not other evaluative statements to support the major evaluative statement. Consider this example:

Major Evaluative Statement: Reading programs at the elementary level are more effective now than 4 years ago.

Factual Statement: 9 year olds improved significantly on the overall NAEP reading tests.

Other Non-Factual Statements:

1) reading programs are more economical
2) reading materials are more attractive
3) reading materials are written better
4) reading scores are better

Teachers should not ignore showing students how to use more specific evaluative statements to organize factual information. See the chart below adapted from Coombs and Meux (1971).

Major Evaluation: Elementary Reading Programs are Better

Specific Judgment	Positive Facts	Negative Facts
Program Economy		
Attractiveness of Material		
Quality of Writing		
Better Reading Scores		

A third subskill often referred to in clarifying the evaluations and the facts is interpreting slanted language or recognizing connotation and denotation. For example,

"5 U.S. Hockey Players in Wild Tavern Brawl"

is basically a factual statement that needs to be neutralized as much as possible.

"5 U.S. Hockey Players in Fight in Tavern"

Now it can be used as a specific factual statement in support of an evaluative statement such as,

"American Olympic athletes were undisciplined trouble-makers."

Isolated exercises like the following may be helpful in teaching this skill.

In the activity below there are several groups of words with similar meanings used in the same sentence. Place an F next to each word which a writer might use to express a favorable connotation. Place a UF next to each word which a writer might use to suggest an unfavorable or bad connotation. Place an N next to each word which a writer might use to report the facts from a neutral position without slanted words.

1) The a) _____cops in our district work in teams.
   b) _____pigs
   c) _____police officers
   d) _____fuzz

2) We a) _____apprehended the prisoner as he ran from the prison.
   b) _____captured
   c) _____molested
   d) _____mauled

3) The a) _____war began when a sniper killed the leader.
   b) _____massacre
   c) _____hostilities
   d) _____military conflicts

4) The a) _____funeral director must manage the funeral and prepare
   b) _____undertaker
   c) _____motician

5) the a) _____stiff for burial.
   b) _____dead
   c) _____corpse
   d) _____deceased
   e) _____loved one

But it is also important not to lose sight of the purpose for presenting this subskill, which is to distinguish between factual and evaluative statements and in turn clarify the major judgments and related facts of the issue. The

articles reviewed here concerning the NAEP reading tests do not offer any lucid examples of this skill. But it is presented so that one can see how this common writing device fits into a coordinated approach.

The reader should now be ready to identify the major evaluative statement in the reading material. Now read the following selection adapted from Venezky (1977) and Lapp and Tierney (1977), two articles appearing in the April Reading Teacher on the topic of the NAEP reading tests.

"Based on the average scores of nine year olds on all reading items on the NAEP reading assessments conducted in 1970-71 and 1974-75, the following result is given: The percentage of items answered correctly by nine year olds in 1970-71 was 63.979 while the same percentage in 1974-75 was 65.196; the difference of 1.22% was a significant increase since it was equal or greater than twice the standard error of measure (i.e. .545) for the test.

At 2 P.M. EDT on September 21, 1976, the Education Commission of the States issued a new release entitled 'It's a Fact - Johnny, Age 9, is Reading Better.'

Datelined Washington, D.C., the release begins, 'Who says Johnny and Mary can't read? Contrary to popular opinion, Johnny and Mary, at age 9 at least, are reading better than their counterparts of a few years ago.'

In the four-page text which follows, the nationwide reading surveys done by the National Assessment of Educational Progress (NAEP) in 1971 and 1975 are compared and discussed. At the end

of the release, the director of National Assessment is quoted as saying that 'special programs at the elementary level are paying off.'"

Table 1

Average scores of nine year olds on all reading items NAEP Reading Assessments, 1970-71 and 1974-75

Student group	Percent of items answered correctly 1970-71	1974-75	SE
Nation	63.979	65.195	.545

The following item could be used to help students identify the major evaluative statements.

Directions: From the choices below select the 2 major evaluative statements based on the reading.

A) The % of items answered correctly by 9 year olds was higher in 1974-75 than in 1970-71.

B) Johnny and Mary at age 9 are reading better than nine year olds of a few years ago.

C) The results are compared and discussed in this article.

D) The director of the NAEP is happy about the results.

E) Special programs at the elementary level have been effective in raising reading scores.

Having identified the major evaluative statements as B and E, the reader is now ready for the next stage, gathering information to support these claims.

THIRD STAGE

First the reader needs to determine if the factual statements are well confirmed based on the data available. This confirmation is not always practical and the reader must sometimes rely on expert testimony. It is here where the instructor can provide the research skills necessary to verify facts. Looking at the chart and facts from several sources and the original report, one can verify that 9 year olds did show a significant increase for the total reading tests from 1970-71 to 1974-75.

But look at the following information on the test results of the 9 year olds on literal comprehens on items from the Lapp and Tierney (1977) article.

Table 2

Scores on NAEP reading subtests: Mean percent of items answered correctly by nine year olds

Student group	Literal Comprehension 1970-71	1974-75	SE
Nation	65.745	66.780	.620

*Indicates significant increase in % scores = 2 S.E.+ across 2 tests

The Reading Assessment Fact Sheet (NAEP, 1976) as reported by Venezky (1977) states

> "'There was no change in the average national performance of 9 year olds on reading items dealing with literal comprehension skills.'"

Compare these results with several quotes from the NAEP report, Reading In America: A Perspective on Two Assessments (1976).

1) "The following item, which measures the ability to remember detail from a tall tale, yielded results that demonstrate the typical improvement of 9 year olds over the four year period." (p. 5)

2) "Nine year olds, who generally showed a significant increase in their ability to perform on literal comprehension items over the past four years ..."

The facts are inconsistent. The key term is the word significant or statistical significance. In reporting research a report that improvement has occurred implies a statistically significant improvement. Based on the NAEP's standard of significance, the change (i.e. 1.0%) on the literal comprehension section for 9 year olds is not significant.

Another criterion for judging reliability is including a wide range of facts. This includes identifying misleading statistics, omitting relevant statistics, looking at information from several points of view and analyzing positive and negative information.

The fact chart mentioned earlier can be used to insure a wide variety and range of factual information. Applying the information (Lapp and Tierney 1977, page 759.) from the specific skill scores of nine year olds to the chart, presents a little different perspective to the overall results of the nine year olds.

Scores on NAEP reading subtests: Mean % of items answered correctly by nine year olds									
Student group	Literal Comprehension		SE	Inferential Comprehension		SE	Reference Skills		SE
	1970-71	1974-75		1970-71	1974-75		70-71	74-75	
Nation	65.74	65.78	.62	60.47	61.37	.61	64.78	67.00*	.708

*Significant increase

Major Evaluation: Nine year olds read significantly better in 1974-75 than in 1970-71.		
Skill Areas	Positive Facts	Negative Facts
Literal Comprehension	1.0% improvement	Not a significant improvement
Inferential Comprehension	.9% improvement	Not a significant improvement
Reference Skills	2.3% improvement	Significant improvement
Total	1.2% improvement	Significant improvement

Looking at the three skill area scores, as opposed to the overall reading test scores, one can see that 9 year olds only improved significantly in one of three areas. Furthermore the large improvement in reference skills may have accounted for the overall significant improvement of 9 year olds.

Other considerations, some of which are suggested by Venezky, are as follows:

Interpretation of Data

1) Is the small amount of improvement educationally significant?

2) What does 65% mean in terms of desired levels of performance?

3) What if another statistic was used to treat the data?

The fourth step for assessing the reliability of an argument is to check the relevancy of the facts presented. The information given in these sources does appear relevant or related to the evaluation that nine year olds are reading better.

FOURTH STAGE

The last criterion for evaluating the soundness of an argument is determining its validity. Although the names are not significant in themselves, it seems helpful to learn several general types of fallacies but especially to learn the reasons for their lack of validity. Just a few fallacies, explained by Munson (1976), are listed here.

1) False Cause: Just because one event follows another doesn't mean the first is the cause of the second (e.g. John died right after he entered the hospital. So the hospital must have killed him.)

2) Gambler's Fallacy:

a) One or more occurrences of a chance event with a certain probability (e.g. coin flip = 1/2 chances - each flip is independent) changes the probability of an event's occurrence in the future.

b) The likelihood of occurrence will increase since it hasn't happened recently (e.g. coin flipped ten times and it comes up tails each time, odds are that it will be heads on the eleventh flip.)

3) Begging the Question or Circular Reasoning:

When evidence or reason for supporting a conclusion is the same as or a restatement of the conclusion.

4) Use of Loaded Phrases or Stereotypes:

Suggests that the reader generalize bad or good things about a person or thing or idea because of the characteristics attached to the phrase. (e.g. "pig," "radical," "draft-dodger," "truth," "justice," "peace lover")

The false cause fallacy can be applied to the topic of the NAEP. In summary, the reported reliable facts about nine year olds are as follows:

1) Nine year olds have improved significantly on the total test scores and reference skill scores from 1970-71 to 1974-75.

2) Nine year olds have not improved significantly in literal and inferential comprehension skills from 1970-71 to 1974-75.

The summary section of the NAEP report (1976) states "the reading panel members, who attributed the general increase in performance of the 9 year

olds to the many reading intervention programs conducted at the primary level...." Venezky (1977) and Lapp and Tierney (1977) mention that several experts have suggested that, based on the nine year olds results, "special programs or reading intervention programs at the elementary level are paying off." This conclusion is invalid because it suggests that all nine year olds have received special reading programs in the elementary grades. This is highly unlikely and the reports do not verify this. In order to insure causality between the facts about nine year olds and the proposed conclusion, one would have to know which schools did and did not have special programs and then verify data proving that those nine year olds involved in the special programs did significantly better than equal subjects not in the special programs. But the data from these two assessments was not collected according to such special factors as Venezky (1977) suggests: 1) attendance in special programs, 2) types of school, and 3) per capita expenditure on education. Therefore, as these two articles also suggest, such cause-effect relationships are "speculative," "presumptuous" and "bordering on the irresponsible." Yet Lapp and Tierney (1977) participated on the panel of six reading specialists asked to examine and interpret the NAEP reading data.

STAGE FIVE

After applying the steps for sound reasoning it may be effective to test the evaluative statements in a variety of ways.

a) One is a role-exchange test as suggested by Coombs and Meux (1971). The instructor should put the student in a reserve role situation, such as a debate.

b) The universal consequences test can be used when the evaluation object is an action. (e.g. Eval: Heroin should be legalized in order to reduce crime. What would happen if everyone were able to buy heroin without a prescription?)

c) A final follow up strategy would be to assess attitude after the selection and appropriate critical reading skills are introduced, taught and practiced.

As stated in the beginning, statements of attitude or feelings are a by-product of evaluation. Therefore it seems important that researchers determine the effects of reading and rational decision making upon short and long-term attitude change.

CONCLUSION

The procedures suggested here are certainly not exhaustive or dogmatic in nature. Nor does this procedure suggest that all these standards will apply to every reading selection. It is possible that a selection may only call for one or two skills in this schema. But knowledge of a comprehensive approach will help the instructor and reader see how specific skills fit into the total process of rational evaluation. An attempt is made to offer a global approach in light of an in coherence with all the appropriate subskills so that the end is not lost sight of in teaching the means.

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